

**Amendments to the Specification:**

Please replace the paragraph at page 13, lines 10 to 25 with the following:

Referring to Fig. 4, the power and ground planes of the PCB 10 are represented by parallel connection buses 20 and 22 respectively. A plurality of loads 24, corresponding to the ICs as described above, are each connected to the buses 20 and 22 at respective points to receive a supply voltage. A plurality of current sources 26, corresponding to the power sources as described above and each providing a regulated current, have their outputs connected at respective points to the buses 20 and 24 to provide a power supply thereto. Voltage is sensed at a point 28 along the buses 20 and 22, representing voltage sensing at a desired location in the two dimensions of the PCB 10, by conductors 30 connected to the buses 20 and 22 at this point. ~~The sensed voltage is supplied via the~~ conductors 30 are connected to voltage sense inputs input ~~circuits 27~~ circuits 27 of each of the current sources 26 as a feedback control signal for controlling the output current of the respective current source 26.

Please replace the paragraph at page 13, line 26 to page 14, line 10 with the following:

Fig. 5 illustrates, in a similar manner to Fig. 4 and using similar reference numerals, interconnections in the power distribution network using a plurality of voltage sensing points. Fig. 5 shows two voltage sensing points 28 and 32, from which conductors 30 and 34 extend to voltage sense input circuits 37 of a control unit 36 which is thereby supplied with the voltages sensed at the respective points 28 and 32. The control unit 36 has outputs coupled to the current sources 26 for controlling and thereby regulating the currents produced by the current sources 26 and supplied to the power and ground planes 20 and 22. In addition, the control unit 36 can be supplied with weighting information for controlling relative weighting of the currents produced by the current sources 26, as further described below. For example, the control unit 36 can be a digital control unit, and the weighting information can be provided as information stored in a table in the control unit.